

## Project 3074

### MAY MONTHLY PROGRESS REPORT MONTANA DOT "PERFORMANCE PREDICTION MODELS"

Monthly Progress	Susan Sillick, MT DOT
Report To:	Jon Watson, MT DOT
Agency:	Fugro-BRE
Contract No.:	HWY-30604-DT
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#### **1.0 CURRENT MONTH WORK ACTIVITIES AND ACCOMPLISHMENTS**

##### **Task 1 – Literature Review**

Complete. A draft memorandum summarizing the models to be considered within this project was submitted to the Department in October 2001. This memorandum will be updated when the calibration and validation of the 2002 Design Guide distress prediction models, previously expected in April 2002, is made available.

##### **Task 2 – Review of MT DOT Pavement-Related Data**

Complete. However, Fugro-BRE will continue to monitor the LTPP database and update any missing data on the test sections with time.

##### **Task 3 – Establish the Experimental Factorials**

Complete.

##### **Task 4 – Develop Work Plan for the Monitoring and Testing Plans**

Complete. The monitoring and testing work plan will be revised after the materials sampling and initial analysis of the data are complete under Tasks 6 and 7.

##### **Task 5 – Presentation of Work Plan to MT DOT**

Complete.

##### **Task 6 – Implement Work Plan – Data Collection**

On-going activities. The team conducted materials deflection testing (MDT), distress surveys, and verification of the pavement structure on the test sections identified in the sampling and testing plan. Materials sampled at each of the sites were stored by PB in Helena until May 13, at which time they were shipped to Austin, Texas. The material reached the Fugro-BRE offices during the following week.

Personnel from Fugro-BRE have sorted, logged, and are in the process of preparing the materials for testing. In addition, the materials testing plan is being updated, keeping in mind the allocated budget for testing. It is expected that the bulk of the testing will occur during the months of June and July.

The project team will contact MDT later this summer (or during the next construction season) to begin identifying the new pavement sections to be constructed for use in the experimental plan. These sections will need to be constructed with Superpave-designed hot mix and will be sampled by the project team during the time of construction.

The project team began review and analysis of the longitudinal profiles measured at each of the sites by Department personnel. The IRIs and longitudinal profiles will be included in the test section reports that will be prepared after the test sections have been cored and sampled.

Fugro-BRE contacted Dr. Vince Janoo and obtained a copy of the seasonal data and draft report entitled "Performance of Montana Highway Pavements During Spring Thaw." This data will be used in analyzing the response and performance data that were monitored and obtained from other test sections.

#### **Task 7 – Data Analyses and Calibration of Performance Prediction Models**

The backcalculation of elastic layer modulus at each of the non-LTPP test sections will be initiated when the layer thickness measurements have been confirmed in the lab from the core samples gathered during the materials sampling. The backcalculation is expected to occur during June and July.

#### **Task 8 – Final Report and Presentation of Results**

No activity.

### **2.0 PROBLEMS/RECOMMENDED SOLUTIONS**

No problems were encountered during last month and none are anticipated next month.

### **3.0 NEXT MONTH'S WORK PLAN**

The activities planned for next month are discussed below:

- Coordinate with Department personnel on an as-needed basis.
- Update materials testing plan.
- Continue analysis of all data collected at the LTPP and non-LTPP test sections.
- Finalize the computation of IRIs from the longitudinal profile measurements.
- Continue preparation of site and test section reports for each of the non-LTPP sections.

### **4.0 FINANCIAL STATUS**

Following is a summary of the estimated expenses incurred during the month of May.

Cost Element	Previous Month's Cumulative Cost, \$	Current Monthly Expenditures (Estimated), \$	Cumulative Costs (Estimated), \$
Direct Labor	17,124	2,356	19,480
Overhead	24,488	3,369	27,856
Consultants/Subcontractors	7,615	0	7,615
Travel	7,515	3,287	10,802
Testing	0	541	541
Other Direct Costs	166	237	402.51
Fee	5,691	979	6670
Total Costs	62,599	10,768	73,367

The following table provides a summary of the total expenditures by the Montana and FHWA fiscal years in comparison to the allocated funds for each fiscal year.

Montana DOT Fiscal Year			FHWA Fiscal Year		
Fiscal Year	Allocated Funds Cumulative, \$	Expenditures Cumulative, \$	Fiscal Year	Allocated Funds Cumulative, \$	Expenditures Cumulative, \$
6/1-6/30 2001	15,000	*0	6/1-9/30 2001	65,000	31,996
7/1-6/30 2002	218,969	73,367	10/1-9/30 2002	258,969	**41,371
7/1-6/30 2003	348,969	---	10/1-9/30 2003	358,969	---
7/1-6/30 2004	388,969	---	10/1-9/30 2004	398,969	---
7/1-6/30 2005	428,969	---	10/1-9/30 2005	438,969	---
7/1-6/30 2006	498,969	---	10/1-9/30 2006	498,969	---
TOTAL	498,969	73,367		498,969	73,367

\*June 2001 expenditures were combined with July 2001 expenditures.

\*\*PB invoices have not yet been received for work completed for the fiscal period of March through May 2002.

Accumulated expenses for the project, estimated through the end of April, are represented graphically in the following chart. The financial chart of actual versus planned expenditures shows that the project team is billing less than expected. This difference is a result of postponing materials sampling to Spring 2002. We expect that the actual versus planned expenditures will become more equal in the coming months after the materials sampling and testing has been completed.

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Monthly Progress Report - Financial Status

Contractor: Fugro-BRE  
Montana DOT: "Performance Prediction Models"  
Fugro-BRE Project No.: 3074

Contract No.: HWY-30604-DT

